CLAIMS

What is claimed is:

1. A method of instructing a computer program to self-optimize, said method comprising:

inputting commands into said computer program; and

allowing a learning protocol in said computer program to determine an approximate optimal policy of operation of said computer program based on said commands.

2. The method of claim 1, wherein said commands comprise learning instructions.

3. The method of claim 1, wherein said commands comprise operational choices for said computer program to select from, wherein said operational choices include an approximate optimal choice for optimizing said operation of the computer program.

4. The method of claim 3, wherein said commands comprise a selection command operable for selecting any function in a list of instructions inputted into said computer program, wherein said function provides a basis of making said approximate optimal choice.

5. The method of claim 3, wherein said commands comprise a rule command operable for instructing said computer program of how to make said approximate optimal choice.

6. The method of claim 3, wherein said commands comprise a reward command operable for instructing said computer program which of said operational choices results in said approximate optimal choice for optimizing said operation of the computer program.

7. A method of autonomically optimizing a computer program, said method comprising:

specifying at least one choice point in said computer program;

defining a set of alternate choices at each choice point; and

setting at least one feedback point for each choice point.

8. The method of claim 7, further comprising allowing a learning protocol in said computer program determine an approximate optimal policy of operation of said computer program based on said specifying, defining, and setting.

9. The method of claim 7, wherein said set of alternate choices comprise operational choices for said computer program to select from, wherein said operational choices include an approximate optimal choice for optimizing said operation of the computer program.

10. The method of claim 9, further comprising inputting a selection command into said computer program, wherein said selection command is operable for selecting any function in a list of instructions inputted into said computer program, wherein said function provides a basis of making said approximate optimal choice.

11. The method of claim 9, further comprising inputting a rule command into said computer program, wherein said rule command is operable for instructing said computer program of how to make said approximate optimal choice.

12. The method of claim 9, further comprising inputting a reward command into said computer program, wherein said reward command is operable for instructing said computer program which of said operational choices results in said approximate optimal choice for optimizing said operation of the computer program.

13. A program storage device readable by computer, tangibly embodying a program of instructions executable by said computer to perform a method of instructing a computer program to self-optimize, said method comprising:

inputting commands into said computer program; and

allowing a learning protocol in said computer program to determine an approximate optimal policy of operation of said computer program based on said commands.

14. The program storage device of claim 13, wherein said commands comprise learning instructions.

15. The program storage device of claim 13, wherein said commands comprise operational choices for said computer program to select from, wherein said operational choices include an approximate optimal choice for optimizing said operation of the computer program.

16. The program storage device of claim 15, wherein said commands comprise a selection command operable for selecting any function in a list of instructions inputted into said computer program, wherein said function provides a basis of making said approximate optimal choice.

17. The program storage device of claim 15, wherein said commands comprise a rule command operable for instructing said computer program of how to make said approximate optimal choice.

18. The program storage device of claim 15, wherein said commands comprise a reward command operable for instructing said computer program which of said operational choices results in said approximate optimal choice for optimizing said operation of the computer program.

19. A system for instructing a computer program to self-optimize comprising:

a compiler operable for inputting commands into said computer program; and

a module operable for allowing a learning protocol in said computer program to determine an approximate optimal policy of operation of said computer program based on said commands.

20. The system of claim 19, wherein said commands comprise learning instructions.

21. The system of claim 19, wherein said commands comprise operational choices for said computer program to select from, wherein said operational choices include an approximate optimal choice for optimizing said operation of the computer program.

22. The system of claim 21, wherein said commands comprise a selection command operable for selecting any function in a list of instructions inputted into said computer program, wherein said function provides a basis of making said approximate optimal choice.

23. The system of claim 21, wherein said commands comprise a rule command operable for instructing said computer program of how to make said approximate optimal choice.

24. The system of claim 21, wherein said commands comprise a reward command operable for instructing said computer program which of said operational choices results in said approximate optimal choice for optimizing said operation of the computer program.

25. A system of autonomically optimizing a computer program comprising:

means for specifying at least one choice point in said computer program;

means for defining a set of alternate choices at each choice point; and

means for setting at least one feedback point for each choice point.